

REMARKS

Claims 46-63 were rejected under 35 USC 102(b) as being anticipated by U.S. Patent 5,669,979 to Elliott (hereinafter Elliott). In addition, claims 50, 52, 58, 59 and 61 through 63 were objected to for improperly depending on the previous claims. By this response, claims 1 through 45 have been cancelled without prejudice in response to the March 11, 2003 restriction requirement, claims 46, 50, 52 and 58 have been amended, while claim 59 has been cancelled, and claims 64 through 69 have been added.

The Applicants have amended objected-to claims 50, 52 and 58, and now believe they are now in proper dependent form, including structural limitations. The Applicants have not amended claims 61 through 63. The Examiner states at page 2 of the April 4, 2003 Office Action that it is not clear what structural limitation is being claimed. The Applicants respectfully disagree. Claim 61 further limits the inlet structure of claim 46 by reciting that it is configured to provide the gaseous constituent in a layer, specifically a layer about ten millimeters or less in thickness. Similarly, claim 62 requires that the configuration of the inlet structure is such that the location of the converging beam of electromagnetic radiation takes place in the gaseous constituent layer. Claim 63 states that the configuration of the inlet structure is such that the gaseous atmosphere being supplied by gas through the inlet structure is predominantly transmission gas.

Regarding rejections based on the cited art, while the Elliott patent discloses a method of cleaning a substrate surface by sweeping a laser beam onto the substrate surface at an acute angle relative to the surface, as shown in FIG. 15, the Applicants respectfully submit that the cited reference fails to teach every element of the claimed invention. To be valid as anticipatory prior art, a reference must disclose every element and limitation of a claim. See, e.g., *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). In the instant case, claim 46 (both in its original form and presently) includes the feature that the beam produced by the radiation source converges "in close proximity to the surface of the

workpiece", but is also "spaced a finite distance therefrom". This is clearly distinguished from the device of the Elliott patent, where the system is configured to have the beam act "on the surface". New claim 64 further recites these features in the context of the gaseous constituent layer disposed between the transmission gas layer and the surface of the workpiece. The Elliott patent fails to disclose, teach or suggest these features, and as such is invalid as an anticipatory reference. Moreover, since neither Elliott nor any of the art cited in the Invention Disclosure Statement (IDS) even contemplates the production of an active species by a beam of radiation that converges above (rather than on) the workpiece surface, any obviousness rejection based thereon would also be improper.

The Applicants have additionally amended independent claim 46 to recite more clearly the interrelation between the various elements, specifically the nature of the electromagnetic radiation source and the beam produced thereby. However, the above-quoted limitation relating to where the beam converges has not been amended, as the claimed device clearly requires that the beam converge above (rather than on) the surface of the workpiece. In addition to being claimed, it is clearly shown in FIG. 1 as the apex of the point located a distance **H** above the surface of workpiece **4**. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Miller*, 169 USPQ 597, 600 ((CCPA 1971), quoting *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970)). Since to hold that the construction of the Elliott patent where beam converging apparatus operates on the surface of the workpiece is the same as the claimed device would be to destroy the plain meaning of that claim requirement, the Applicants respectfully submit that the patent to Elliott is inappropriate as a basis of rejection of claim 46.

The Applicants believe that all claims are now in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response.

Respectfully submitted,
KILLWORTH, GOTTMAN, HAGAN &
SCHAEFF, L.L.P.

By 

John D. Reed
Registration No. 46,506

One Dayton Centre
One South Main Street, Suite 500
Dayton, Ohio 45402-2023
Telephone: (937) 223-2050
Facsimile: (937) 223-0724
e-mail: reedj@kghs.com

JDR/mjt